

WHAT IS CLAIMED IS:

1 1. A drain valve for placement in the wall of a vessel to
2 drain its contents, said valve comprising:

3 a body having an inner end, an outer end, a central
4 axis, an outer wall, an inner peripheral wall defining a central
5 passage which extends from end to end of the body, an inlet port
6 adjacent to said inner end, a first and a second peripheral
7 sealing surface on said inner peripheral wall, said sealing
8 surfaces being spaced apart by a recess between them, and a
9 thread on said body adjacent to its outer end to receive a collar
10 for mounting the body in an opening through the wall of the
11 vessel;

12 a plunger in said passage, extending axially and
13 slidably fitted therein, said plunger having a central axis
14 coaxial with the axis of said passage, a first peripheral sliding
15 seal so disposed and arranged as to make a fluid sealing fit with
16 said first peripheral sealing surface over a range of its
17 movement to close the valve to flow, and to pass beyond it to
18 permit said flow, a second peripheral seal so disposed and
19 arranged as to seal with said second peripheral sealing surface,
20 a flow bore in said plunger extending from its outer end to a
21 flow port opening onto the outside of the plunger between said
22 sliding seals;

23 whereby with the valve mounted to the vessel and the

24 plunger pressed inwardly so the first sliding seal and first
25 peripheral sealing surface engage, there is no flow through the
26 valve, but when the plunger is moved outwardly so the first
27 sliding seal moves away from said first peripheral sealing
28 surface, water can flow to the recess and into said flow port and
29 out of the plunger.

1 2. A drain valve according to claim 1 in which a thread is
2 formed to said plunger adjacent, said outer end of said body,
3 whereby to expose said thread to a coupling when the plunger is
4 axially moved toward said outer end.

1 3. A drain valve according to claim 1 in which an inlet
2 port is formed in said body at its inner end.

1 4. A drain valve according to claim 3 in which said inlet
2 port has a lateral dimension smaller than said first peripheral
3 sealing wall, and said plunger carries a seal to close the said
4 inlet port when fully moved toward said inner end.

1 5. A drain valve according to claim 1 in which said
2 plunger includes an axially extending splines and said body
3 carries a notched stop whereby to permit axial reciprocation of
4 said plunger, but to limit its rotation in said body.

1 6. A drain valve according to claim 2 in which said spline
2 is provided in two segments, each segment being angularly spaced
3 from the other with a gap between them such as to permit axial
4 reciprocation of one, but prevent the other, without interim
5 rotation of the plunger.

1 7. A drain valve according to claim 2 in which an inlet
2 port is formed in said body at its inner end.

1 8. A drain valve according to claim 2 in which said inlet
2 port has a lateral dimension smaller than said first peripheral
3 sealing wall, and said plunger carries a seal to close the said
4 inlet port when fully moved toward said inner end.

1 9. A drain valve according to claim 8 in which said
2 plunger includes an axially extending splines and said body
3 carries a notched stop whereby to permit axial reciprocation of
4 said plunger, but to limit its rotation in said body.